

WRIGHT PATTERSON AIR FORCE BASE, AREA E.  
BUILDING 70. FUEL AND OIL TEST LABORATORY  
DAYTON, OH.  
GREENE COUNTY  
OHIO

HAER No. OH-79-AW

HAER  
OHIO  
29-DAYT.V.  
1AW

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
P.O. Box 37127  
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD  
WRIGHT-PATTERSON AIR FORCE BASE, AREA B,  
BUILDING 70, FUEL AND OIL TEST LABORATORY

HAER No. OH-79-AW

HAER  
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Location: On east side of C Street between 6th and 7th Streets; Wright-Patterson Air Force Base, Area B, Dayton Vicinity, Greene County, Ohio.

Date of Construction: 1943.

Present Owner: USAF.

Present Use: San Antonio ALC Energy Management Laboratory.

Significance: Built during Wright Field's World War II construction boom, Building 70 has been in continuous use as a fuels analysis facility since the war.

Project History: This report is part of the overall Wright-Patterson Air Force Base, Area B documentation project conducted by HAER 1991-1993. See overview report, HAER No. OH-79, for a complete description of the project.

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DESCRIPTION: The Fuel and Oil Test Laboratory is a rectangular, two-story, brick building with a low parapeted flat roof with concrete coping. Ribbon style replacement windows with concrete lintels and sills extend the length of the building. A ramp with posts and rails lead to an arched tunnel entrance to the basement. Steps on either side of the tunnel meet at the top and lead to the wide, stone entrance with reeded articulations flanking the original glass-paneled doors and transom. In contrast with this Art Deco entrance, the rest of the building exhibits elements of the International style with its simple, clean lines. Moreover, the building features numerous exposed pipes, vents, and electrical wiring in metal casings that emphasize the functional nature of its design.

HISTORY: Built in 1943 to accommodate the Fuel and Oil Branch of the Power Plant Laboratory (now the Aero Propulsion and Power Directorate), Building 70 has been in continuous use as a fuels analysis facility since World War II. The Laboratory had the capabilities to investigate fuel storage characteristics at different temperatures, fuel heat transfer and heat sink characteristics, and fuel lubricity and rheology. Specialized equipment there included a climatic test room (capable of temperatures to 130°F and 100% humidity), chemistry laboratories, engine test stands, six single-cylinder engines (specially designed for fuels and lubricants testing), burner test rigs, and gear testing devices. Among the many advances developed in Building 70's facilities was an oil dilution system for cold weather starting, standardized for all types of aircraft.

Building 70 currently houses the San Antonio ALC Energy Management Laboratory. The first floor consists primarily of laboratory space, while the second floor contains mostly office space. The basement accommodates storage vaults and utilities.

For bibliography, see Wright-Patterson Air Force Base overview report (HAER No. OH-79).